

4.13 AGRICULTURAL RESOURCES

This section describes existing agricultural resources and describes whether implementation of the proposed Project would convert “Prime Farmland,” “Unique Farmland,” or “Farmland of Statewide Importance” to non-agricultural use; conflict with existing zoning for agricultural use or a Williamson Act contract; or involve other changes to the existing environment, which, due to their location, could result in conversion of farmland to other non-agricultural use.

4.13.1 Environmental Setting

The onshore portion of the Ellwood Full Field Development and Pipeline Project site is situated on a primarily flat coastal marine terrace. The EOF has been continuously operated as an oil and gas processing facility since 1965. The EMT has been continuously operated as a barge and tanker crude oil transfer facility since 1929. The EOF Project site is not zoned for agriculture and is not part of a Williamson Act Agricultural Preserve contract that would commit it to long-term agricultural uses. There are neither agricultural properties nor activities located adjacent or in the vicinity of the EOF and EMT. However, the proposed pipeline route would be adjacent or cross small portions of active agricultural operations that range from orchards to cattle grazing.

Historically, this area had been used as rangeland and to grow crops, including dry farming. This trend began with the arrival of the Spanish missionaries in the late 1700s, escalated in the mid-to-late 1800s, involved the conversion of wetlands to agriculture in the early-to-mid 1900s, and ended by the mid-to-late 1960s when urbanization and development in the area effectively removed any remaining agricultural operations from the EOF Project area (UCSB 2004). Several locations along the proposed pipeline route have historically been used and are currently being used for agricultural activities, primarily avocado and citrus orchards and cattle grazing.

In Santa Barbara county, agriculture is the major producing industry generating over \$1 billion in 2006. Avocados are the predominant crop along the proposed route and are the sixth most profitable agricultural product in Santa Barbara county with a total value of over \$40 million in 2006 (Santa Barbara County Agricultural Commissioner 2006). The pipeline route also crosses, or runs adjacent to, land used for cattle grazing.

4.13.1.1 Soil Conditions

The United States Department of Agriculture (USDA), Soil Conservation Service (SCS) publishes soil survey reports for nearly all regions of California. The reports include detailed, qualitative and quantitative descriptions of soil characteristics including color, texture, thickness, engineering properties, and the soil's suitability for specific crops. Soil characteristics for the Project area are presented in Table 4.13-1.

Ellwood Onshore Facility. Two surface soils are identified on the SCS Soil Survey map of the EOF site. The Goleta Series loam soils are present in the western portion of the site. These soils are listed as well drained, moderately permeable, and have a moderate to high erosion potential. Soils in the eastern portion of the site belong to the Milpitas-Positas Series fine sandy loam soils having low permeability and moderate to high erosion potential. A geotechnical investigation for Mobil at the EOF (S/G Testing Laboratories, Inc., 1994) indicates that onsite soils consist of silt-sand-clay mixtures with interbeds of clay. The soils represent alluvium and terrace deposits and overlie Monterey Formation bedrock at a depth of approximately 10 to 14 feet below grade.

Ellwood Marine Terminal. The Soil Conservation Survey of Santa Barbara county, South Coastal Part identifies soils at the EMT site as Conception Series soils on varying slope angles. These soils are moderately well drained and developed on low coastal terraces. Permeability of the soils is listed as very low and erosion potential is moderate to high. Onsite geotechnical investigations were conducted for Mobil in 1993 by S/G Testing Laboratories, Inc. including ten borings that were drilled to depths of 100.5 feet below grade. In general, sub grade soils consisted of fine to medium grained silty and clayey sands with some clayey interbeds. These soils represent alluvium and terrace deposits, which overlie bedrock of the Monterey and Sisquoc formations at depths of 15 feet to 32 feet.

Onshore Pipeline. Soil characteristics will impact the design and construction of the pipeline, particularly the development of a site-specific erosion control and re-vegetation plan. Major soil associations are compiled from data published by the SCS for Santa Barbara County (USDA, SCS, 1969; 1970; 1981). Soils along the proposed route are variable, ranging from well drained soils present in the alluviated plains and terraces to poorly drained soils in drainage areas. Most of the pipeline route lies within graded road rights-of-way, paved roads, and agricultural areas; therefore, most native soils within the alignment have already been disturbed or removed.

Table 4.13-1
Soil Characteristics

Soil Association	Soil Type	Soil Capability	Farmland Soil Type	Root Rot Hazard Rating
Milpitas-Positas-Concepcion	Fine sandy loam	IIIe-3	Statewide Importance	Severe
Ayar-Diablo-Zaca	Clay; cobbly clay	IVe-5	Statewide Importance	Severe
Capitan-Linne	Loam	IVe-1		Severe
Goleta Series	Fine sandy loam	I	Prime	Slight
Agueda	Silty, clay loam	I	Prime	Slight
Orthents	Stony, fine sandy loam	VIIIe-1		Variable
Ballard Variant	Stony, fine sandy loam	I	Prime	Moderate

Notes:

Soil Capability Class Designations

- I Soils with few limitations that restrict their use.
- III Soils with severe limitations that reduce the choice of plants, require special conservation practices, or both.
- IV Soils with very severe limitations that reduce the choice of plants or that require very careful management, or both.
- VIII Soils and landforms with limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply.
- e Limitations due to erosion unless close-growing plant cover is maintained.

Soil Capability Subclasses

- 1 Actual or potential erosion hazard.
- 3 Slow or very slow permeability in the subsoil or substratum.
- 5 Fine textured or very fine textured surface soil.

Sources: USDA Soil Survey 1981; Farmland Mapping and Monitoring Program.

At least seven major soil associations are present along the pipeline ROW. The distribution and character of these soils are described below. All of the soil associations are suitable for growing avocados, although avocado production is more dependent on a favorable climate than ideal soils (USDA 1981).

- **Milpitas-Positas-Concepcion Association.** Typically occurs on marine terraces and are present on the coastal terraces west of Goleta.
- **Ayar-Diablo-Zaca Association.** Forms on mudstones of the Rincon Formation or on alluvium derived from the Rincon Formation, and is present on the coastal terraces west of Goleta.
- **Capitan-Linne Association.** Typically forms on the coarse-grained, calcareous, marine terrace deposits west of Goleta.
- **Goleta Association.** Typically forms on flood plains and alluvial fan west of Goleta.
- **Agueda Association.** Typically forms in alluvium derived from calcareous, sedimentary formations.

- **Orthents Association.** Typically forms on steep and very steep terrace escarpments.
- **Ballard Variant Association.** Typically forms in alluvium derived from sedimentary rock.

Potential soil-related impacts in agricultural areas include the loss of prime agricultural land and transport of the fungus *phytophthora cinnamoni*, which causes root rot in avocado trees, through fugitive dust emissions or physical transport of infested soils (USDA 1981). Avocado root rot hazard ratings are listed in the Santa Barbara County Soil Conservation Service reports as "severe" along most of the pipeline ROW. Soil drainage is the key factor for the degree of hazard for the water mold. Root rot is most prominent in soils that are slowly permeable and stay saturated for prolonged periods.

4.13.2 Regulatory Setting

Federal

The Farmland Protection Policy Act of 1981 protects Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance.

State

The California Department of Conservation is charged with developing programs for the protection of agricultural resources of the State. Based on data from the Natural Resources Conservation Service (NRCS) of the USDA, the California Department of Conservation has developed a Farmland Mapping and Monitoring Program (FMMP) to classify the different agricultural soil types according to their ability to sustain agricultural crops (UCSB 2004).

The mapping program was created in 1982 in response to a need to assess the location, quality, and quantity of agricultural lands to deal with the loss of important farmland to development. The mapping program is used under the California Environmental Quality Act (CEQA) and other State laws (including Government Code section 65561) to measure the impact on the production of food and other agricultural products by eliminating different kinds of lands. Appendix G of the State CEQA Guidelines refers to this classification system for the evaluation of the potential for significant environmental impacts (UCSB 2004).

The FMMP's Important Farmland Maps classify agricultural lands as "Prime Farmland" and "Farmland of Statewide Importance." The broad definitions for these two categories are provided below:

- Prime Farmland is land with the best combination of physical and chemical features for the long-term production of agricultural crops. This land can economically produce sustained high yields when treated and managed according to accepted modern farming methods. The land must have been used for the production of irrigated crops at some time during the two updated cycles prior to the current mapping date.
- Farmland of Statewide Importance is land with a good combination of physical and chemical features, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been cropped at some time prior to the mapping date.

Whether a farmland is considered to be Prime Farmland or Farmland of Statewide Importance is determined by the soil's meeting the specific physical and chemical criteria specified by the USDA NRCS. The NRCS compiles lists of which soils in each survey area meet the quality criteria. Factors considered in qualification of a soil by NRCS include water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid alkali balance, water table, soil sodium content, flooding, erodability, permeability rate, rock fragment content, and soil rooting depth (UCSB 2004).

The Williamson Act program, officially known as the California Land Conservation Act, was adopted in 1965. The California Department of Conservation administers this program, which allows land used in farming or ranching to be taxed at a rate based on the actual use of the land for agricultural purposes as opposed to its unrestricted market value. In return, the landowner commits to restricting use of the land to agricultural or open space for at least 10 years (UCSB 2004).

Sections of the California Coastal Act Coastal Resources Planning and Management Policies (30241 – 30243) include provisions for the protection and management of coastal agricultural resources by maximizing and maintaining prime agricultural land (30241, 30241.5, 30242) and preserving the long-term productivity of soils (30243). Coastal Act section 30241 states in part, "The maximum amount of prime agricultural land shall be maintained in agricultural production... and conflicts shall be minimized between agricultural and urban land uses..." (Santa Barbara County 2004).

1 **Local**

2 Santa Barbara County's Agricultural Element (Santa Barbara County 1989) includes
3 policies and development standards to minimize significant impacts resulting from
4 agricultural land conversion. Policy II.D of the County Agricultural Element states that
5 the conversion of highly productive agricultural lands, whether in areas designated
6 urban or rural, shall be discouraged, and that the county shall support programs that
7 encourage the retention of highly productive agricultural lands. In addition, Santa
8 Barbara County Agricultural Element Policy III.B states that it is a county priority to
9 retain blocks of productive agriculture within urban areas where reasonable, to continue
10 to explore programs to support that use, and to recognize the importance of the
11 objectives of the County's Right-to-Farm Ordinance.

12 The city of Goleta General Plan includes agricultural policies within Policy LU 7,
13 Agriculture and Policy CE 11, Preservation of Agricultural Lands. However, the project
14 is not slated to affect any areas within the city zoned agriculture.

15 **4.13.3 Significance Criteria**

16 A project would have a significant effect on the environment if it would:

- 17 • Convert prime agricultural land to non-agricultural use or impair the agricultural
18 productivity of prime agricultural land; or
- 19 • Conflict with agricultural preserve programs; or
- 20 • Affect any unique or other Farmland of State or Local Importance.

21 **4.13.4 Impact Analysis And Mitigation**

22 The primary activities that could affect agricultural activities and productivity include the
23 following:

- 24 • Construction and installation of the pipeline.
- 25 • Pipeline repair and maintenance.
- 26 • Increases in the potential of a pipeline leak/spill.

27 The proposed Project would involve the construction of an onshore eight-inch diameter
28 (0.20 m) crude oil pipeline from the EOF to the AACP at LFC. The proposed eight-inch-

diameter (0.20 m) pipeline would cross under Highway 101 near the EOF and extend parallel to the north side of the highway for approximately 10 miles (16 km) to LFC. At LFC, the pipeline would extend a short distance to a new tie-in point on the AAPL. The Applicant's proposed pipeline would tie in directly to the AACP and would not utilize any of the ExxonMobil SYU storage tanks. The pipeline would be installed along Calle Real, which is parallel to Highway 101 north of the highway. Since Calle Real does not run the entire length of the proposed pipeline route, the pipeline would also cross a few stretches of private ranch/agricultural roads that parallel Highway 101. About 80 percent of the pipeline would be routed within the existing road ROW, adjacent to existing water, gas, and electric utility services. For the approximate 2.7 miles that the pipeline route passes through orchards or grazing fields it is intended that the pipeline would utilize existing orchard service roads so as to minimize impact to any existing trees.

Impact AG-1: Loss of Agricultural Resources Due to Pipeline Construction and Soil Disturbance (Potentially Significant, Class II).

Portions of the pipeline ROW would cross agricultural lands currently used for grazing and tree crop production. Some of these lands are protected under the Williamson Act. Prior to construction, all appropriate approvals and access to private land would be obtained. Construction of the pipeline may obstruct some private agricultural roads temporarily.

The pipeline construction would not convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land, conflict with agricultural preserve programs, or have long-term effects on unique or other Farmland of State or Local Importance

Construction and the use of heavy machinery in agricultural areas can result in the mixing of topsoil with relatively infertile subsoil causing a dilution in productivity of the soil. In addition, heavy machinery can cause rutting and compaction of the soil altering the soil chemistry leading to decreased productivity. Mixing of soils can also introduce the fungus *phytophthora cinnamoni* known to cause root rot in avocado trees. Due to the pipeline route existing primarily in the existing road ROW the possibility for soil disturbance due to pipeline construction is *adverse but not significant with mitigation*. (Class II).

Mitigation Measures

AG-1a Soil Replacement and Replanting. All soils within agricultural lands disturbed by pipeline construction activities shall be replaced and if necessary enriched to support their former crops (or cattle grazing areas). All disturbed areas shall be replanted at a 1:1 ratio.

Rationale for Mitigation

The loss of agricultural resources associated with pipeline construction is considered to be short term. Affected areas would be returned to pre-construction conditions resulting in no long-term impact. The proper placement of fertile surface soil following pipeline construction would also minimize long-term impacts to agricultural resources. Replanting of disturbed areas will also result in minimal impact to agricultural resources and minimize potential erosion and soil runoff.

Impact AG-2: Potential Loss of Agricultural Resources Due to Pipeline Leak or Spill

A spill of oil could result in impacts to the surrounding areas by impacting agricultural resources and local water supplies (Potentially Significant, Class II).

Oil spills can directly affect agricultural operations by reducing the availability or quality of soil, water, nutrients, and oxygen to plant root systems, hindering growth and possibly causing mortality of crops exposed to oil. Further, recovery of affected soils would be slow due to lingering toxicity and altered soil characteristics. Indirect effects from oil spill cleanup could include clearing and grading for access and removal of oiled crops and soil. These potential impacts would result in impairing the agricultural productivity of prime farmlands and potential removal of prime soils. The potential for a spill or leak will extend through the construction of the pipeline and the operable lifetime of the pipeline.

To minimize the threat of an oil spill or leak the proposed pipeline would have a leak detection system installed that would automatically shutdown and block in if a leak should occur. In addition, the pipeline system would include provisions for the remote monitoring of pressure and flow rate. Valves that provide for the stoppage of product flow are required by Federal pipeline regulations (49 CFR 195.260) at either side of waterways 100 feet wide. Valves are proposed for Eagle Canyon, Canada Del Capitan, and Dos Pueblos Canyon. In addition, block valves would be added at the EOF and at

the AACP tie-in location. These valves allow for the pipeline to be blocked by sections for the automatic shutdown in case of a leak. Impacts from a pipeline spill or leak would be *adverse but not significant with mitigation (Class II)*.

Mitigation Measures

AG-2a Restoration after a Pipeline Leak/Spill. All areas contaminated as a result of an oil leak or spill shall be restored to their prior state with equivalent soils and orchard trees.

Rationale for Mitigation

The loss of agricultural resources associated with an oil spill would be considered a short-term impact. Impacted areas would be returned to pre-spill conditions resulting in no long-term impact to agricultural resources.

Impact AG-3. Loss of Prime Agricultural Land

Project-related activities could result in the temporary loss of prime agricultural resources and crop production (Adverse, but not Significant, Class III).

The California Department of Conservation Important Farmland Mapping Program designates areas of prime soils and soils of Statewide importance based on soil characteristics and area agricultural use. Soils classified as prime farmland by the California Department of Conservation (1990) are found immediately adjacent to the project ROW in Las Varas and Dos Pueblos canyons.

The pipeline route would follow existing orchard service roads so as to minimize impact to existing trees. Soils containing the fungus responsible for avocado root rot could exist throughout the proposed route. Spread of the fungus *phytophthora cinnamoni* to the avocado orchards will be controlled during pipeline construction. Water trucks will be used for dust suppression. This measure will reduce the potential impact resulting from construction related dust spreading to adjacent agriculture areas during the growing season.

In addition, the Applicant and its contractors will coordinate construction activities with the Santa Barbara County Agricultural Commissioner prior to excavation in order to develop an acceptable plan to reduce the potential spread of the fungus to avocado orchards. This plan will include careful handling of trench spoil and the use of water

trucks to reduce dust generation during construction. Impacts to prime farmland would be adverse but not significant (Class III).

Mitigation Measures

AG-3a Dust Suppression and Fungus Control. Water trucks shall be used for dust suppression along the pipeline right of way to reduce the potential impact resulting from construction related dust spreading to adjacent agriculture areas during growing season. In addition, the Applicant and its contractors shall coordinate construction activities with the Santa Barbara County Agricultural Commissioner prior to excavation in order to develop an acceptable plan to reduce the potential for spread of the fungus to avocado orchards. This plan will include careful handling of trench spoil and the use of water trucks to reduce dust generation during construction.

Table 4.13-2
Summary of Agricultural Resources Impacts and Mitigation Measures

Impact	Impact Class	Mitigation Measures
AG-1: Loss of Agricultural Resources Due to Pipeline Construction and Soil Disturbance	Class II	AG-1a All soils within agricultural lands disturbed by pipeline construction activities shall be replaced and if necessary enriched to support their former crops (or cattle grazing areas). All disturbed areas shall be replanted at a 1:1 ratio.
AG-2: Potential Loss of Agricultural Resources Due to Pipeline Leak or Spill	Class II	AG-2a All areas contaminated as a result of an oil leak or spill shall be restored to their prior state with equivalent soils and orchard trees.
AG-3: Potential Loss of Agricultural Resources and Crop production Due to Project Related Activities	Class III	AG-3a Water trucks shall be used for dust control. Coordination with the Agricultural Commissioner to avoid the spread of fungus to avocado orchards.

Extension of Life Impact

The Applicant has stated that the proposed Project would not increase the life of the existing South Ellwood Field Facilities, which is currently defined by the operational life of Platform Holly until 2040, and would likely reduce the overall duration of oil and gas production from existing facilities due to more efficient extraction of the resource. However, it is possible that increased oil and gas production from new wells drilled into

the existing and proposed leases, formations (Lower Sespe) and fault blocks (North Flank and Eagle Canyon) could produce economically viable resources for a longer-than-expected period and increase the life of the existing facilities. Therefore, the impacts identified in Table 4.13-2 have the potential to occur over a longer period than assumed for the proposed project, exacerbating potentially adverse impacts.

Increasing the project duration and exposure of facilities to potential geological hazards could result in an increased likelihood of an oil spill impacting agricultural resources and would be considered potentially significant but mitigable (Class II).

4.13.5 Impact Analysis of Alternatives

No Project Alternative

Under the No Project Alternative, there would not be any construction of new facilities or the modification of existing facilities. Normal operations of the current facilities would not result in impacts to agricultural resources, since there are no active agricultural operations in the area. Additionally, no designated Prime Farmland or lands under Williamson Act contracts are present in the existing facilities area and the existing facilities site is not considered a viable potential agricultural resource. Should a spill occur, removal of topsoil may be required as part of spill clean-up and remediation. However, since the soils are considered Class III, non-unique agricultural lands, and are not Farmlands of Statewide or Local Importance, this ground disturbance would have no impact on agricultural resources. Impacts **AG-1** through **AG-2** would be eliminated.

No EOF Modifications

There would be no new impacts with this alternative beyond those analyzed for the proposed Project.

Processing on Platform Holly

This alternative involves the installation of new facilities and modifications of existing facilities on Platform Holly. Installation of the proposed pipeline from the EOF to the AACP would occur adjacent to, or cross small portions of agricultural lands including Prime Farmlands and lands under Williamson Act contracts. Significant effects to the agricultural environment from the construction of the pipeline could:

- Convert Prime Farmland to non-agricultural use or impair the agricultural productivity of prime agricultural land;
- Conflict with agricultural preserve programs; or
- Affect any unique or other Farmland of State or Local Importance.
- Under this alternative Impacts **AG-1**, **AG-2**, and **AG-3** would be the same as the proposed Project. Mitigation Measures **AG-1a** and **AG-2a** would apply.

Las Flores Canyon Processing: Offshore Gas and Onshore Oil Pipeline

This alternative includes decommissioning the EMT and the EOF and would ship oil emulsion through the proposed pipeline described in Section 2.0 Project Description. Effects from this alternative on agricultural resources are consistent with the potential effects from the onshore pipeline identified for the proposed Project.

- Under this alternative Impacts **AG-1**, **AG-2**, and **AG-3** would be the same as the proposed Project. Mitigation Measures **AG-1a** and **AG-2a** would apply.

Las Flores Canyon Processing: Offshore Gas and Offshore Oil Pipeline

The proposed onshore pipeline would not be constructed under this alternative and all operations would be moved offshore resulting in no effects to agricultural lands. Impacts **AG-1** through **AG-3** would be eliminated under this alternative.

4.13.6 Cumulative Projects Impact Analysis

Cumulative projects that could impact the current analysis include energy, industrial residential and recreational projects.

Energy and Industrial Projects

Projects in the process of obtaining offshore leases or lease extensions would use existing onshore facilities extending the lifespan of the facilities and increasing the potential necessity for future pipeline maintenance and repair. Similar to the proposed Project, pipeline maintenance and repair has the potential to impact agricultural productivity. These projects could have a significant cumulative impact. However, the

1 Project's contribution to this impact would not be cumulatively considerable with
2 implementation of identified mitigation measures.

3 Similar to the proposed Project, these projects increase the potential for a pipeline leak
4 or spill, which has the potential to impact agricultural productivity. These projects could
5 have a significant cumulative impact. However, the Project's contribution to this impact,
6 while adverse, would not be cumulatively considerable with implementation of identified
7 mitigation measures.

8 **Residential and Recreational Projects**

9 Nineteen related residential and recreational projects have been proposed or approved
10 in the Ellwood-Devereux area and lands west of the Bacara Resort. Agricultural
11 impacts would be minimal for most of the projects because they would be on land
12 designated as Urban Built-Up Land or Other Land. However, the development of areas
13 adjacent to or in the vicinity of agricultural farmlands or cattle grazing land would have a
14 significant cumulative impact. However, the Project's contribution to this impact, while
15 adverse, would not be cumulatively considerable with implementation of identified
16 mitigation measures.

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